MS in Civil and Environmental Engineering (Geotechnical Specialization)

A MS degree is comprised of 45 units of 400/500 level coursework. The following is a list of potential courses that can be taken to satisfy the unit requirements for students who want to specialize in geotechnical engineering.

**Core Courses**
- CE 481 Shallow Foundation Analysis and Design
- CE 482 Subsurface Exploration*
- CE 486 Geologica Engineering
- CE 487 Rock Slope and Foundation Design
- CE 581 Advanced Geotechnical Engineering*
- CE 582 In Situ Testing*
- CE 583 Geotechnical Earthquake Engineering
- CE 584 Lateral Support Systems*
- CE 585 Slope Stability Analysis
- CE 586 Deep Foundation Analysis and Design*
- CE 587 Geoenvironmental Engineering
- CE 588 Ground Improvement
- CE 589 Geosynthetics Engineering

**Related Courses**
- BRAE 446 CAD Software for Land Modeling
- BRAE 447 Advanced Surveying with GIS Applications
- BRAE 532 Water Wells and Pumps
- CE 404 Applied Finite Element Analysis
- CE 407 Structural Dynamics
- CE 434 Groundwater Hydraulics and Hydrology
- CE 454 Structural Design
- CE 457 Bridge Engineering
- CE 488 Engineering Risk Analysis
- CE 521 Airfield and Highway Pavement Design
- CE 537 Groundwater Contamination
- CE 552 Analysis and Seismic Design of Reinforced Concrete
- CE 557 Seismic Analysis and Design for Civil Engineers
- CE 559 Prestressed Concrete Design
- CRP 458 Hazard Mitigation and Design
- GEOL 401 Field Geology Methods
- GEOL 402 Geological Mapping
- GEOL 415 Structural Geology
- GEOL 420 Applied Geophysics
- SS 423 Soil and Water Chemistry
- SS 442 Soil Vadose Zone Remediation

*offered on 1.5 year rotation or offered infrequently